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SOVIET HARVESTING OF SUGAR BEETS, ROOT FODDERS

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Several errors are committed in harvesting sugar beets. Some kolkhozes begin harvesting work too early in the season. Crops in the main sugar beet areas can grow considerably during the first half of September. During a clear summer day, the sugar content of sugar beets increases by one-tenth of one percent or more, while during the first 10 days of September, the sugar content can increase by $1\frac{1}{2}$ percent or more. The weight of roots increases by as much as 8-10 grains in 24 hours. Furthermore, if sugar beets are dug out too soon, they wilt very quickly and cannot easily be stored. Consequently, large losses are inevitable.

A more serious error is delay in sugar beet harvesting. In years of rainy autumns and early snowfalls, sugar beets may be frozen if the state plan for harvesting is followed. For this reason, each kolkhoz should draw up its own harvesting plan, taking into account the utilization of all manpower and tractive force and the loading of sugar beet elevators, tractors, and horses. The exact size of the harvest on kolkhoz plantations must be computed ahead of time.

According to plans approved by the Soviet of Ministers USSR and the TsK VKP(b), sugar beet pulling must be completed by the following dates: in the Ukrainian SSR on 25 October; in oblasts of the central chernozem zone of the RSFSR, Lithuania, Latvia, Estonia, and Belorussia on 20 October; in Siberian oblasts on 10 October; in the Caucasus on 10 November. All other areas are to complete sugar beet pulling by 20 October.

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In the main sugar beet areas of European USSR, kolkhozes are allotted 20-25 days in October for harvesting. Past experiences shows that out of 20-25 working days in October 12-15 days are suitable for sugar beet pulling as a result of unfavorable climatic conditions. Thus, some of the harvesting work which cannot wait until October must be done in September.

In drawing up a harvesting plan, each kolkhoz worker using a sugar beet harvester is held responsible for cleaning and storing 10-15 centners of sugar beets each working day; if the work is done by hand, 8 centners. Consequently, the harvesting period for 250 centners, allowing 0.8 hectare per kolkhoz member, would be about 20 days if the work were done by harvesters and 25 days if done by hand. This means that in a given case (a 250-centner harvest, for example) machine harvesting in the RSFSR can begin on about 15 September, and hand harvesting on 10 September; in the Ukraine on 20 and 15 September, respectively. About half the sugar beets should be pulled during the September harvesting.

As soon as sugar beets are dug, the roots should be cut off and cleaned with as little damage to them as is possible. Damaged roots are hard to store, lose much sugar, and contact fungus disease more readily. The harvester is an invaluable aid for this work, since it digs out whole roots and lessens the number of sugar beets lost in the ground. Hand pulling often can result in as much as 3-5 percent loss of the total harvest.

There are several methods for cleaning sugar beet roots. The best one is the Yarmoshenko method which cuts out only the central bud and leaves the stalks and lateral buds. Cleaning by this method results in only a very small loss of sugar-carrying tissue and decreases the possibilities of harming roots. Research has shown that the preservation of buds prevents roots from becoming infected with fungus diseases and lowers losses of sugar beets during storage.

To be stored successfully, sugar beets must be kept from wilting and must be promptly transported to sugar-processing points. The following dates have been set for removing sugar beets from plantations: in Siberia, Lithuania, Latvia, Estonia, and Belorussia by 1 November; in Ukrainian SSR by 5 November; in Moldavian SSR, the Caucasus, Tambov and Penza oblasts by 1 December; in Kursk and Voronezh oblasts and the Central Asiatic republics by 15 December.

The shortest period for pulling and transporting sugar beets is 11 days for the Ukrainian SSR. In the RSFSR, it is considerably longer; 40 days for Tambov and Penza oblasts and 56 days for Kursk and Voronezh oblasts. In Krasnodar Kray, it is 20 days (from 10 November to 1 December), and in Central Asia one month (from 15 November to 15 December).

The problem of storing sugar beets, which cannot immediately be removed from plantations, must also be considered. Many kolkhoz directors do not consider this, since they think that all the sugar beets can be removed at once. However, if sugar beets are piled up and covered with sugar beet leaves for even a short time, the roots wilt. If they remain in piles for a long period of time, the result can be a large loss in both the sugar beet harvest and in the amount of sugar obtained. The leaves covering the beets dry quickly and are easily carried away by the wind, leaving the roots uncovered.

For temporary storage of sugar beets in fields, the roots must be cleaned and placed in piles, then covered immediately with leaves; if the beets are left for as long as 3 days, they should be covered with dirt. Sugar beets which are to remain in the field longer should be placed in round containers, 2.5 meters wide and 1.5 meters deep.

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Root fodder harvesting requires less work than sugar beet harvesting, since root fodders are composed primarily of plants whose roots are above the soil and can be easily pulled out by hand. Cleaning root fodders is also easier since the roots are very thick and the food value of roots and leaves is almost the same. This makes careful cleaning by hand unnecessary.

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